

**What is claimed is:**

1           1.    A voice-over-Internet protocol (VoIP) device,  
2    comprising:  
3           a subscriber line interface circuit serving as an  
4    interface for communications with a telephone;  
5           a relay selectively coupled to a public switched  
6    telephone network (PSTN) or coupled to a VoIP network  
7    through the subscriber line interface circuit;  
8           a processor coupled to the subscriber line interface  
9    circuit to determine whether a transmission from the  
10   telephone through the subscriber line interface circuit  
11   is a PSTN phone number or a VoIP phone number, wherein  
12   when the transmission is a VoIP phone number, the  
13   processor routes the transmission to the VoIP network,  
14   and when the transmission is a PSTN phone number, the  
15   processor instructs the subscriber line interface circuit  
16   to generate a dual-tone multi-frequency redial number;  
17   and  
18           a dual-tone multi-frequency coupling circuit coupled  
19   between the subscriber line interface circuit and the  
20   public switched telephone network for receiving the dual-  
21   tone multi-frequency redial number from the subscriber  
22   line interface circuit when the transmission is  
23   determined as a PSTN phone number, and routing the dual-  
24   tone multi-frequency redial number to the public switched  
25   telephone network.

1           2.    The voice-over-Internet protocol device of  
2 claim 1, wherein the dual-tone multi-frequency coupling  
3 circuit comprises:

4           a switching element having a first terminal and a  
5 second terminal and controlled by the processor, wherein  
6 the switching element is turned on by the processor when  
7 the transmission is determined as a PSTN phone number;

8           a first coupling device coupled between the  
9 subscriber line interface circuit and the first terminal  
10 of the switching element for receiving the dual-tone  
11 multi-frequency redial number from the subscriber line  
12 interface circuit; and

13          a second coupling device coupled between the second  
14 terminal of the switching element and the public switched  
15 telephone network for routing the dual-tone multi-  
16 frequency redial number to the public switched telephone  
17 network when the switching element is turned on.

1           3.    The voice-over-Internet protocol device of  
2 claim 2, wherein the first coupling device is a  
3 capacitor.

1           4.    The voice-over-Internet protocol device of  
2 claim 2, wherein the second coupling device is a  
3 transformer.

1           5.    The voice-over-Internet protocol device of  
2 claim 2, wherein the switching element is a transistor.

1           6.    The voice-over-Internet protocol device of  
2 claim 1, further comprising a data access arrangement for  
3 detecting the status of the public switched telephone

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4 network and instructing the relay to allow the dual-tone  
5 multi-frequency coupling circuit to transmit the dual-  
6 tone multi-frequency redial number to the public switched  
7 telephone network when the public switched telephone  
8 network is not busy.